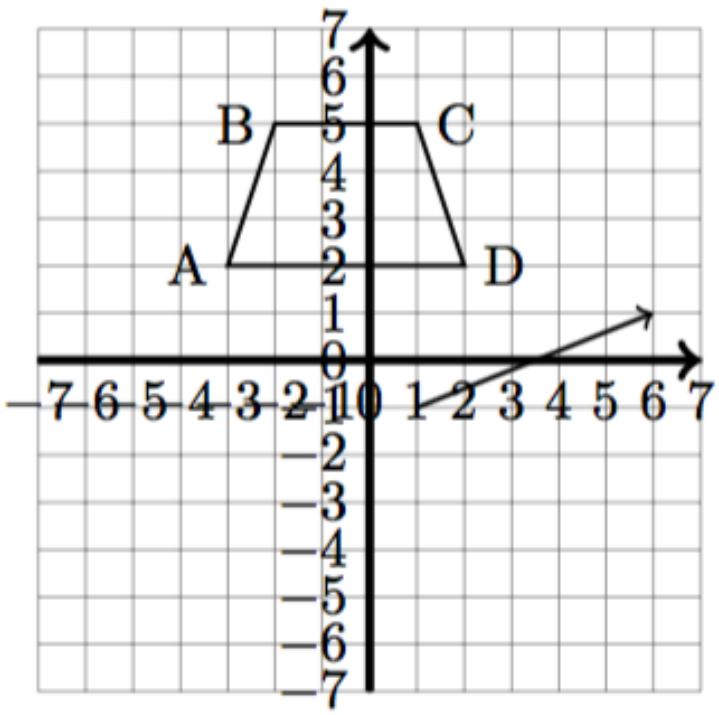
**Topic**: Translation vectors

**Question**: Find the coordinate.

If figure $ABCD$ undergoes a translation to $A'B'C'D$ as directed by the vector shown, what will be the coordinates of point $C'$?




**Answer choices**:

A (6,7)

B (5,2)

C (3,10)

D (2,4)

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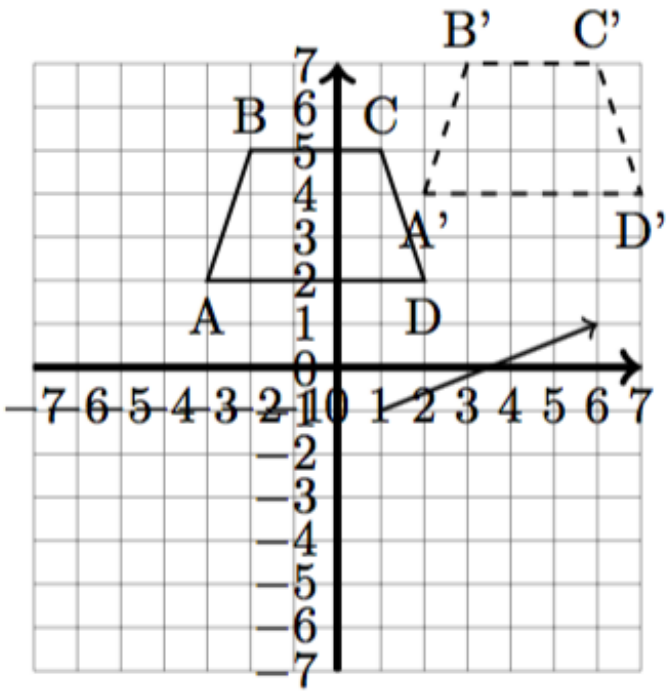
**Solution**: A

Though it's not totally necessary for answering the problem, the figure below shows the entire trapezoid being translated.




The vector indicates a translation of $5$ to the right and $2$ up. Point $C$ is at $(1,5)$. Add $5$ to the $x$ value and $2$ to the $y$ value. The result, $(6,7)$ is the location of $C'$.

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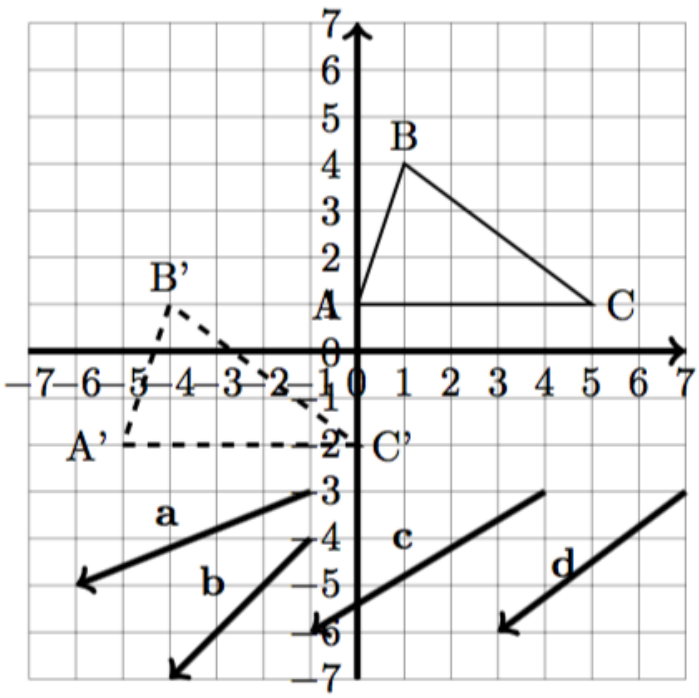
**Topic**: Translation vectors

**Question**: Find the translation.

$\Delta ABC$ undergoes a translation to $\Delta A'B'C'$. Which of the vectors shown would produce that translation?




**Answer choices**:

A A

B B

C C

D D

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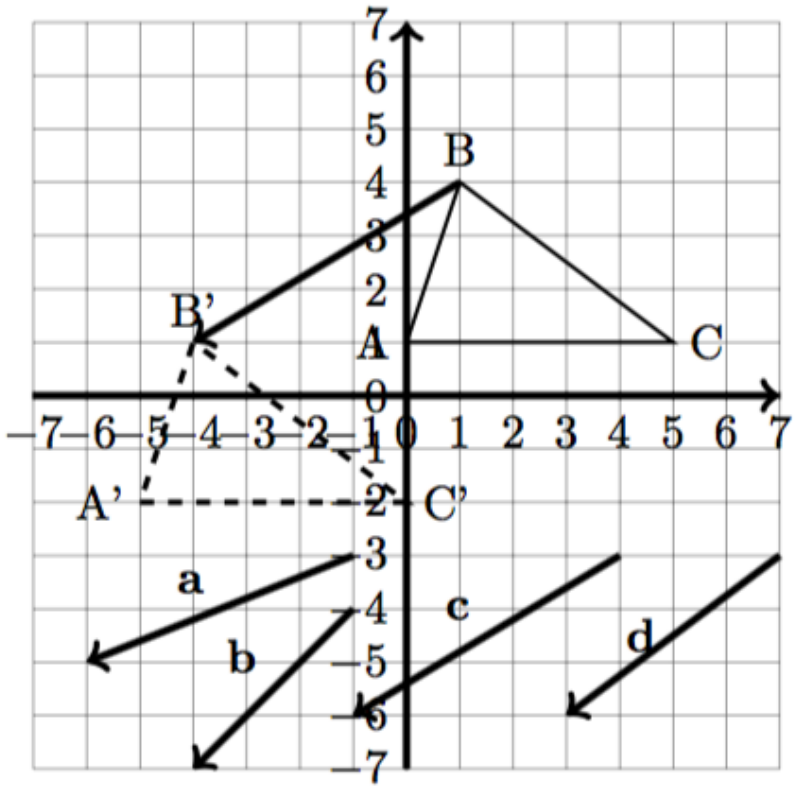
**Solution**: C

Look at the vector from $B$ to $B'$. It goes down $3$ and $5$ to the left.




Vector $C$ is the vector that matches that.

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**Topic**: Translation vectors

**Question**: Determine the translation.

Translation vector $a$ starts at $(3,1)$ and is directed toward $(0,7)$ where it ends. A second translation vector $b$ starts at $(0,7)$ and is directed toward $(-1,4)$ where it ends.

Determine a single translation vector that would accomplish the same translation as the given two vectors. What is its length?

**Answer choices**:

A 5

B 4

C 3

D 2

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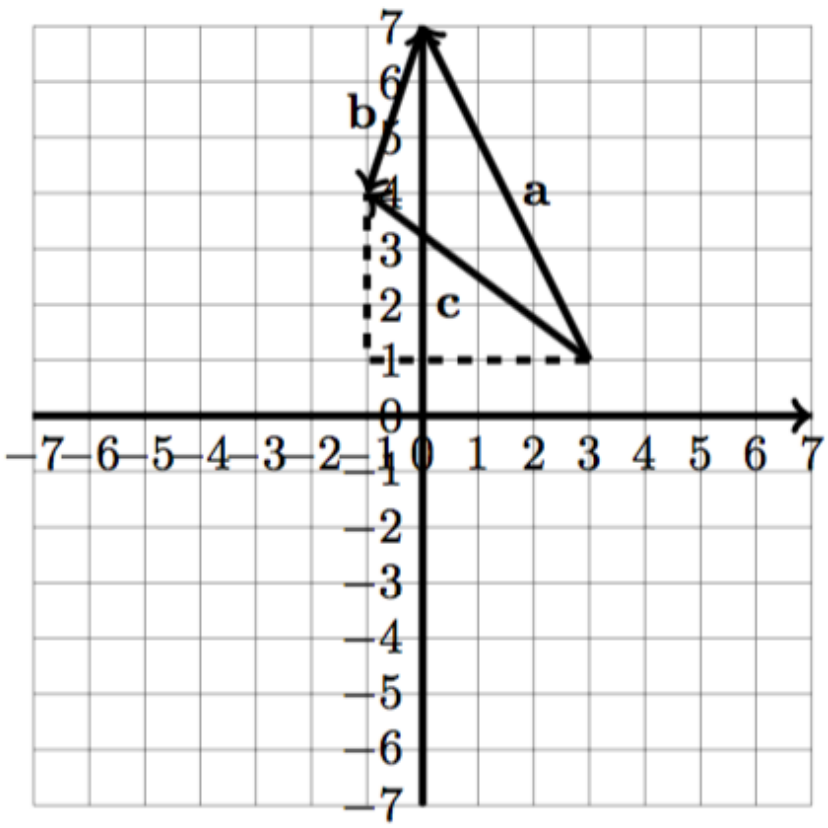
**Solution**: A

Vector $c$ will produce the same translation in one step as the two vectors $a$ and $b$.

Notice how $c$ is the hypotenuse of a 3-4-5 right triangle.




The length of $c$ must be $5$.

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